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# The prevalence and overlap of technology-assisted and offline adolescent dating violence

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## Abstract

Research has established the nature and prevalence of offline Adolescent Dating Violence (ADV) and the role of Technology-Assisted Adolescent Dating Violence (TAADV) has been recently but slowly acknowledged, albeit primarily in the United States. Less research however, has examined such types of violence among British adolescences and the extent of overlap between the two forms of abuse. This paper examines the nature, prevalence and overlap of TAADV and offline ADV victimisation/instigation among a sample of adolescents in England. Four-hundred-and-sixty-nine adolescents (aged 12–18) completed questionnaires regarding their experience of TAADV and ADV. Findings revealed that TAADV involvement was prevalent and was generally characterised by both victimisation and instigation, except for sexual TAADV in which females were more likely to be identified as victims only. Technology appears to have provided new opportunities for victimisation and/or instigation of TAADV exclusively that may not have been possible before the development of such communication tools; however, some adolescents reported experiencing both TAADV and ADV. Implications of the findings are discussed and recommendations are made for future policy, practice and research.

## Keywords

Adolescent(ce)
Technology-assisted dating violence
Offline dating violence
Prevalence
Overlap

Adolescent Dating Violence (ADV) has been recognised as an important issue among adolescents as young as 13 years of age with prevalence rates in the United Kingdom (UK) of up to 30% for both physical and sexual victimisation and up to 72% for psychological/emotional victimisation (Barter et al. 2009; Burman and Cartmel 2005; Fox et al. 2014). Sexual ADV is characterised by male instigation and female victimisation (Barter et al. 2009); although, findings are less clear with regard to physical and emotional ADV. A review of international ADV prevalence studies found reports of controlling ADV victimisation and instigation and physical ADV instigation to be higher for females while males reported higher rates for physical ADV victimisation (Stonard et al. 2014). The cross-Government definition of domestic violence (including physical, psychological, emotional, sexual and financial abuse as well as coercive and controlling behaviour) has acknowledged that domestic abuse can occur between dating couples aged 16–17 as well as adults aged 18 and over (Home Office 2012). Yet this neglects those under the age of 16 and also does not acknowledge the use of new technologies in the instigation of ADV. The role of technologies such as mobile phones and methods of communication via the Internet (e.g. social networking sites, instant messenger, email, and websites/blogs) as a method to instigate ADV electronically has recently been recognised; for example, repeated texting or posting sexual pictures of a partner online (Centers for Disease Control and Prevention 2012). However, Technology-Assisted Adolescent Dating Violence (TAADV) has gained slow but growing attention, primarily in the United States (US).

Picard (2007) was the first to explore this issue and found TAADV victimisation experiences ranged from 5 to 36% depending on the type of abusive or controlling behaviour. More recent studies have reported the prevalence of TAADV victimisation experiences between 12%–56% (Cutbush et al. 2010, 2012; Dick et al. 2014; Hinduja and Patchin 2011; Zweig et al. 2013). A review of 12 studies reporting TAADV prevalence by Stonard et al. (2014) found that

measures used varied in terms of the type and comprehensiveness of the questions (e.g. the number of TAADV behaviour items ranged from 1 to 12), which may account for the wide range in prevalence estimates. Little is known about the nature of adolescents' experiences of both victimisation and instigation of a range of TAADV behaviours across a range of technologies and whether this differs for males and females, particularly in the UK. Barter et al. (2009) asked two questions about British adolescents' experience of a partner's use of a mobile or the Internet to humiliate or threaten them (12% females vs. 4% males) and frequently checking up on their movements by phone or text (42% females vs. 29% males). Fox et al. (2014) asked one question regarding checking who a partner has phoned or sent messages to. More recently, Barter et al. (2015) found that 40% of adolescents (38–48% females vs. 20–46% males) in five European counties including England experienced online emotional abuse, encompassing a range of behaviours such as putdowns, nasty posts, threats, controlling friends or activities, checking behaviours and trying to make friends stop liking a partner via a mobile or online. Prevalence rates of TAADV in these studies appear to be higher for females compared to males. Similarly, in the US, Zweig et al. (2013) identified that females were more likely to report experiencing (23% vs. 21%) and instigating (13% vs. 7%) non-sexual forms of TAADV and experiencing sexual forms of TAADV (15% vs. 7%), while males were more likely to instigate sexual TAADV~~A~~ (4% vs. 2%). Dick et al. (2014) also found that more female than male respondents reported non-sexual (40% vs. 29%) and sexual (14% vs. 9%) TAADV victimisation, particularly in relation to repeatedly contacting a partner to see where they were or whom they were with. Conversely, Korchmaros et al. (2013) found no significant gender differences with regard to adolescents' instigation of psychological TAADV.

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It has been identified that adolescents experience ADV as both a victim and an instigator (Giordano et al. 2010; Zweig et al. 2013). However, research regarding the potential overlap of instigator-victim roles is limited with regard to TAADV. Zweig et al. (2013) found that the majority (around two-thirds) of TAADV victims were not also instigators, although almost two-thirds of instigators also reported being victims. It is not known whether this varies by gender, the type of TAADV (e.g. non-sexual and sexual) or how this applies to a sample of British adolescents. Furthermore, while offline ADV has been

identified as a correlate of TAADV in the US (Cutbush et al. 2012; Dick et al. 2014; Epstein-Ngo et al. 2014; Zweig et al. 2013), such research has not been conducted with British adolescents and it is not known to what extent TAADV and ADV are experienced as a continuum of abusive and controlling behaviour for males and females or whether the use of technology creates new victims and/or instigators of TAADV separate from offline ADV.

Like ADV, TAADV is likely to have a damaging impact that could potentially be unique due to the nature of the method used to instigate abuse. For example, technology may facilitate and possibly exacerbate the problem of control in adolescent relationships, in addition to transcending into a wider repertoire of online and offline control strategies (Barter et al. 2009). Additionally, technology may provide opportunities for constant contact through mobile or online communication tools (Draucker and Martsolf 2010), which may mean that TAADV is difficult to escape from (Stonard et al. 2017). It is important to study the nature of adolescents' involvement in TAADV and ADV and whether this is experienced as a continuum of violence or whether TAADV results in a unique behaviour and experience. Although the studies reviewed provide insight into TAADV, they have their weaknesses as a result of the varied and sometimes limited measures and the comparative lack of UK research on TAADV. Consequently, this paper aims to explore the prevalence and overlap of British adolescents' involvement in past year TAADV and physical and controlling ADV victimisation and instigation among male and females please correct 'females' to 'female' adolescents using a comprehensive questionnaire encompassing a range of TAADV behaviours via range of technologies. There are three specific research questions this paper seeks to address, each also examining the role of gender:

(1) What is the prevalence of TAADV and ADV among British adolescents?

(2) What role of involvement (i.e. victimisation and/or instigation) do adolescents have in TAADV and ADV?

(3) What is the extent of the overlap between TAADV and ADV?

# Hypotheses

Specifically, it was expected that:

- *Hypothesis 1: TAADV and ADV will be evident in adolescent romantic relationships and there will be a significant difference in prevalence by gender dependent on the nature of ADV and TAADV reported. It is expected that females will report more non-sexual and sexual TAADV victimisation than males. Males will report more sexual TAADV instigation than females. Females will report more non-sexual TAADV instigation than males. Female adolescents will report more controlling ADV victimisation and instigation and physical ADV instigation than males. Males will report more physical ADV victimisation than females.*

- *Hypothesis 2: There will be an overlap between reported victimisation and instigation of TAADV/ADV with those who experience TAADV being more likely to also report instigating TAADV, and those who report experiencing ADV will be more likely to also report instigating ADV. In terms of sexual TAADV specifically, it is expected that females will experience more victimisation only than males, and males will report more instigation only than females.*

- *Hypothesis 3: There will be an overlap between TAADV and ADV experience such that those who report experiencing and/or instigating TAADV will be more likely to report experiencing and/or instigating ADV.*

# Method

## Design

A cross-sectional between subjects correlational design was used.

## Participants

A total 469 adolescents (52% female; 88% White British) aged between 12 and 18 years ($M = 13.9$ years; $SD = 1.27$) were recruited using opportunity and purposive sampling through schools, youth clubs and via snowballing (i.e. via contacts of the researcher within the target age group of 12–18 years; e.g. through a scouts club and further snowballing via the participating adolescents) in Central England. The sample included more females than the national gender

demographic in England (i.e. 53% male; Office for National Statistics (ONS) 2011). The percentage of the sample that was of White British ethnicity was more extreme than the representation of White ethnicity in England (i.e. 81%; ONS 2011). The majority (81%) of adolescents reported having ever had a romantic relationship with a girlfriend or boyfriend. Findings reported in this paper are limited to those adolescents (59%; $n = 277$) with past year dating relationship experience and who provided data for all of the variables used in the subsequent analysis (e.g. as can be seen in Tables 1-9, analyses is based on 259–277 adolescents based on missing data). There was a significant relationship between gender (64% females vs. 54% males) and having had a dating relationship in the last 12 months ($\chi 2(1, 469) = 5.35$, $p < .05$, OR = .65), such that females were more likely than males to report having a relationship in the last month.

**Table 1**

Prevalence of TAADV victimisation at least once or more ($n = 117–120$ males; 157 females)

| | **Total % (*n*)** | **Male % (*n*)** | **Female % (*n*)** | **$X^2$** |
|---|---|---|---|---|
| Insults | 45.1 (125) | 38.3 (46) | 50.3 (79) | $\chi^2(1277) = 3.95$, $p = .05$, $OR = 1.63$ |
| Embarrass/humiliate | 31.0 (86) | 28.3 (34) | 33.1 (52) | $\chi^2(1277) = 0.73$, $p = .39$, $OR = 1.25$ |
| Shared/distributed info | 28.3 (78) | 25.2 (30) | 30.6 (48) | $\chi^2(1276) = 0.96$, $p = .33$, $OR = 1.31$ |
| Threatened | 20.4 (56) | 14.4 (17) | 24.8 (39) | $\chi^2(1275) = 4.52$, $p = .03$, $OR = 1.96$* |
| Check up on | 55.8 (164) | 53.8 (64) | 57.3 (90) | $\chi^2(1276) = 0.35$, $p = .56$, $OR = 1.15$ |
| Sexual/sexting pressure | 19.6 (54) | 11.8 (14) | 25.5 (40) | $\chi^2(1276) = 8.90$, $p = .004$, $OR = 2.56$** |
| Unwanted sexting | 20.7 (57) | 16.0 (19) | 24.2 (38) | $\chi^2(1276) = 2.80$, $p = .09$, $OR = 1.68$ |
| Checked messages | 31.0 (85) | 35.0 (41) | 28.0 (44) | $\chi^2(1274) = 1.54$, $p = .21$, $OR = 0.72$ |
| Demanded passwords | 13.5 (37) | 14.4 (17) | 12.7 (20) | $\chi^2(1275) = 0.16$, $p = .69$, $OR = 0.87$ |

| | | | | |
|---|---|---|---|---|
| Deleted contacts | 21.5 (59) | 23.1 (27) | 20.4 (32) | $\chi^2(1274) = 0.29$, $p = .59$, $OR = 0.85$ |
| Feel afraid to not respond | 15.7 (43) | 11.1 (13) | 19.1 (30) | $\chi^2(1274) = 3.24$, $p = .07$, $OR = 1.89$ |
| Prevention of technology use | 12.4 (34) | 11.1 (13) | 13.4 (21) | $\chi^2(1274) = 0.32$, $p = .57$, $OR = 1.24$ |
| **Total** | 72.6 (199) | 68.4 (80) | 75.8 (119) | $\chi^2(1274) = 1.86$, $p = .17$, $OR = 1.45$ |
| *Significant at the .05 level (2-tailed);**.01 level (2-tailed) | | | | |

**Table 2**

Prevalence of TAADV instigation at least once or more ($n = 114–115$ males; 156–157 females)

| | **Total % (*n*)** | **Male % (*n*)** | **Female % (*n*)** | **$X^2$** |
|---|---|---|---|---|
| Insults | 24.3 (66) | 19.1 (22) | 28.0 (44) | $\chi^2(1272) = 2.86$, $p = .09$, $OR = 1.65$ |
| Embarrass/humiliate | 11.0 (30) | 8.7 (10) | 12.7 (20) | $\chi^2(1272) = 1.11$, $p = .29$, $OR = 1.53$ |
| Shared/distributed info | 14.4 (39) | 12.3 (14) | 15.9 (25) | $\chi^2(1271) = 0.71$, $p = .40$, $OR = 1.35$ |
| Threatened | 7.7 (21) | 7.0 (8) | 8.3 (13) | $\chi^2(1271) = 0.15$, $p = .70$, $OR = 1.20$ |
| Check up on | 33.9 (92) | 30.7 (35) | 36.3 (57) | $\chi^2(1271) = 0.93$, $p = .34$, $OR = 1.29$ |
| Sexual/sexting pressure | 5.9 (16) | 7.9 (9) | 4.5 (7) | $\chi^2(1271) = 1.40$, $p = .24$, $OR = 0.54$ |
| Unwanted sexting | 4.8 (13) | 5.3 (6) | 4.5 (7) | $\chi^2(1271) = 0.09$, $p = .76$, $OR = 0.84$ |
| Checked messages | 17.4 (47) | 18.4 (21) | 16.7 (26) | $\chi^2(1270) = 0.14$, $p = .71$, $OR = 0.98$ |
| Demanded passwords | 5.6 (15) | 9.6 (11) | 2.6 (4) | $\chi^2(1270) = 6.30$, $p = .01$, $OR = 0.25$* |
| Deleted contacts | 8.9 (24) | 10.5 (12) | 7.7 (12) | $\chi^2(1270) = 0.65$, $p = .42$, $OR = 0.71$ |

| | | | | |
|---|---|---|---|---|
| Feel afraid to not respond | 7.0 (19) | 9.6 (11) | 5.1 (8) | $\chi^2(1270) = 2.06$, $p = .15$, $OR = 0.51$ |
| Prevention of technology use | 6.3 (17) | 7.0 (8) | 5.8 (9) | $\chi^2(1270) = 0.17$, $p = .68$, $OR = 0.81$ |
| Total | 49.6 (134) | 44.7 (51) | 53.2 (83) | $\chi^2(1270) = 1.89$, $p = .17$, $OR = 1.41$ |
| *Significant at the .01 level (2-tailed) | | | | |

**Table 3**

Prevalence of controlling ($n = 115$ males; 152–154 females) and physical ADV ($n =$ 114–115 males; 151–152 females) at least once or more in the last 12 months

| | **Total % (*n*)** | **Male % (*n*)** | **Female % (*n*)** | **$X^2$** |
|---|---|---|---|---|
| Controlling ADV | | | | |
| Victim | 36.3 (97) | 24.3 (28) | 45.4 (69) | $\chi^2(1267) = 12.54$, $p = .000$, $OR = 2.58$* |
| Instigator | 43.1 (116) | 31.3 (36) | 51.9 (80) | $\chi^2(1269) = 11.44$, $p = .001$, $OR = 2.37$* |
| Physical ADV | | | | |
| Victim | 24.8 (66) | 25.2 (29) | 24.5 (37) | $\chi^2(1266) = 0.02$, $p = .89$, $OR = 0.96$ |
| Instigator | 14.3 (38) | 9.6 (11) | 17.8 (27) | $\chi^2(1266) = 3.50$, $p = .06$, $OR = 2.02$ |
| *Significant at the .001 level (2-tailed) | | | | |

**Table 4**

Individual roles of TAADV ($n = 114$ males; 156 females), and controlling ($n = 115$ males and 152 females) and physical ADV ($n = 114$ males; 151 females)

| | **Total % (*n*)** | **Male % (*n*)** | **Female % (*n*)** | **$X^2$/FE** |
|---|---|---|---|---|
| TAADV | | | | $p = .16$ |
| Victim only | 23.3(63) | 24.6 (28) | 22.4 (35) | |

| | | | | |
|---|---|---|---|---|
| Instigator only | 0.7(2) | 1.8 (2) | 0 (0) | |
| Instigator-victim | 48.9 (132) | 43.0 (49) | 53.2 (83) | |
| None | 27.1 (73) | 30.7 (35) | 24.4 (38) | |
| Controlling ADV | | | | $X^2(3267) = 14.64$, $p = .002$, Cramer's $V = .23$* |
| Victim only | 5.2(14) | 4.3(5) | 5.9 (9) | |
| Instigator only | 12.0(32) | 11.3(13) | 12.5 (19) | |
| Instigator-victim | 31.1(83) | 20.0(23) | 39.5 (60)* | |
| None | 51.7(138) | 64.3(74) | 42.1 (64) | |
| Physical ADV | | | | $p = .18$ |
| Victim only | 13.2(35) | 16.7(19) | 10.6 (16) | |
| Instigator only | 3.0(8) | 1.8(2) | 4.0 (6) | |
| Instigator-victim | 11.3(30) | 7.9(9) | 13.9 (21) | |
| None | 72.5(192) | 73.7(84) | 71.5 (108) | |
| *Significant at the .01 level (2-tailed) | | | | |

**Table 5**

Individual roles (i.e. victim, instigator, instigator-victim, none) of sexual ($n = 114$ males; 157 females), and non-sexual ($n = 114$ males; 156 females) TAADV

| | **Total % (*n*)** | **Male % (*n*)** | **Female % (*n*)** | **FE** |
|---|---|---|---|---|
| Sexual TAADV | | | | $p = .002$* |
| Victim only | 21.0 (57) | 10.5 (12) | 28.7 (45)* | |
| Instigator only | 1.1 (3) | 0.9 (1) | 1.3 (2) | |

| | | | | |
|---|---|---|---|---|
| Instigator-victim | 7.0 (19) | 7.9 (9) | 6.4 (10) | |
| None | 70.8 (192) | 80.7 (92) | 63.7 (100) | |
| Non-sexual TAADV | | | | $p = .16$ |
| Victim only | 23.7 (64) | 24.6 (28) | 23.1 (36) | |
| Instigator only | 0.7 (2) | 1.8 (2) | 0.0 (0) | |
| Instigator-victim | 47.8 (129) | 42.1 (48) | 51.9 (81) | |
| None | 27.8 (75) | 31.6 (36) | 25.0 (39) | |
| *Significant at the .01 level (two-tailed) | | | | |

**Table 6**

Overlap of controlling ADV with TAADV for males ($n = 111$)

| | **TAADV** | | | | |
|---|---|---|---|---|---|
| Controlling ADV | 1 | 2 | 3 | 4 | FE |
| Males | | | | | $p = .01$* |
| 1. None | 37.0 (27) | 30.1 (22) | 2.7 (2) | 30.1 (22) | |
| 2. Victim | 0.0 (0) | 0.0 (0) | 0.0 (0) | 100.0 (5) | |
| 3. Instigator | 16.7 (2) | 33.3 (4) | 0.0 (0) | 50.0 (6) | |
| 4. Instigator-victim | 19.0 (4) | 9.5 (2) | 0.0 (0) | 71.4 (15) | |
| *Significant at the .01 level (two-tailed) | | | | | |

**Table 7**

Overlap of controlling ADV with TAADV for females ($n = 150$)

| | **TAADV** | | | |
|---|---|---|---|---|
| Controlling ADV | 1 | 2 | 4 | FE |
| Females | | | | $p = .00$* |
| 1. None | 44.4 (28) | 33.3 (21) | 22.2 (14) | |
| 2. Victim | 0.0 (0) | 22.2 (2) | 77.8 (7) | |
| 3. Instigator | 38.9 (7) | 16.7 (3) | 44.4 (8) | |

| | | | | |
|---|---|---|---|---|
| 4. Instigator-victim | 5.0 (3) | 10.0 (6) | 85.0 (51) | |
| *Significant at the .001 level (two-tailed) | | | | |

**Table 8**

Overlap of physical ADV with TAADV for males ($n = 110$)

| | **TAADV** | | | | |
|---|---|---|---|---|---|
| Physical ADV | 1 | 2 | 3 | 4 | FE |
| Males | | | | | $p = 23$ |
| 1. None | 35.4 (29) | 24.4 (20) | 2.4 (2) | 37.8 (31) | |
| 2. Victim | 21.1 (4) | 36.8 (7) | 0.0 (0) | 42.1 (8) | |
| 3. Instigator | 0.0 (0) | 0.0 (0) | 0.0 (0) | 100.0 (2) | |
| 4. Instigator-victim | 0.0 (0) | 14.3 (1) | 0.0 (0) | 85.7 (6) | |
| Not significant | | | | | |

**Table 9**

Overlap of physical ADV with TAADV for females ($n = 149$)

| | **TAADV** | | | |
|---|---|---|---|---|
| Physical ADV | 1 | 2 | 4 | FE |
| Females | | | | $p = .000$* |
| 1. None | 31.1 (33) | 28.3 (30) | 40.6 (43) | |
| 2. Victim | 0.0 (0) | 12.5 (2) | 87.5 (14) | |
| 3. Instigator | 33.3 (2) | 0.0 (0) | 67.7 (4) | |
| 4. Instigator-victim | 14.3 (3) | 0.0 (0) | 85.7 (18) | |
| *Significant at the .001 level (two-tailed) | | | | |

# Procedure

Once ethical clearance was granted from the University's Research Ethics

Committee, the researcher emailed and/or phoned secondary schools and youth clubs to seek gatekeeper approval to recruit participants, in addition to recruiting participants via snowballing methods. Gatekeeper consent was gained from three secondary schools and seven youth clubs. Parents/guardians were informed about the research by letter and were asked to withdraw their children using an opt-out procedure (i.e. the return of an opt-out form) if they did not wish for them to take part before the researcher met the eligible adolescent participants (i.e. those between 12 and 18 years old and who had not been opted out of the study by their parent(s) or guardian (s)). Informed consent was obtained from all individual adolescent participants included in the study. Participants completed a series of pencil-and-paper questionnaires administered in the same way in each setting using the same introductions, instructions, delivered by the same person, with the same process.

## Measures

The TAADV survey consisted of 12 abusive, threatening, monitoring or controlling TAADV behaviours that are listed in the results section is Tables 1 and 2 ( e.g. insulting, mean or hurtful comments; embarrassing or humiliating a partner; sharing a partner's personal information or pictures; pressure to engage in unwanted sexting; and checking messages, contact histories or friend lists I think it would actually be better for me to list the more detailed description of all 12 behaviours here rather than just provide five examples as listed here. Could the section of this sentence in brackets be amended to state the following instead please?

"(e.g. insulting, mean or hurtful comments; embarrassing or humiliating a partner; sharing a partner's personal information or pictures; threatening a partner; checking up on a partner's whereabouts; pressure to engage in unwanted sexting; recieving unwanted sexting; checking messages, contact histories or friend lists; demanding a partner's passwords; deleting friends or contacts from a partner's mobile or online accounts; feeling afraid to not respond to communication from a partner; and being prevented from using technology to talk to others)" ) that could be experienced or instigated via a range of technologies (e.g. call, text, instant message, social networking site, picture message, video chat, email chatroom, website/blog). The TAADV survey was developed by reviewing existing literature and measures (e.g. Stonard et al. 2014) in order to create a comprehensive list of possible TAADV behaviours incorporating behaviours identified in this

literature and then piloting this survey with a sample of adolescents to check the relevance of the TAADV behaviours and technologies used and the structure, format and layout of the survey. Response options ranged in frequency from ‘never’ to ‘hourly’ and the timeframe was the last 12 months. The 12 TAADV victimisation questions had Cronbach’s alpha scores ranging from $\alpha = .91–.97$, and for instigation this was $\alpha = .86–.99$, suggesting high internal consistency.

The Controlling Behaviors Scale (CBS; Graham-Kevan and Archer 2003) was used to measure past year controlling ADV and consisted of 12 items for each victimisation and instigation using four of the five original subscales to reflect the sample of adolescent respondents (threats, intimidation, emotional abuse and isolation). Questions included for example, making threats to harm or leave a partner, using looks, actions, and/or gestures to change a partner’s behaviour, humiliating or putting a partner down, and restricting the amount of time a partner spends with friends or family. Response options range from ‘never’ to ‘very often’. Although this measure was originally used with adults, the behaviours measured in this scale reflect those found in research explore adolescent experiences of psychological and emotional dating violence. For example, the power and control tactics thought to characterise adult abusive and controlling relationships (Pence and Paymar 1993), reflect those in dating violence among adolescents (National Centre on Domestic and Sexual Violence n.d.). Studies with adolescents have used similar behaviours to those used in the CBS to measure ADV. For example, Foshee (1996) measured threatening behaviours, emotional manipulation, personal insults and monitoring behaviours, finding such forms of psychological abuse to be prevalent among adolescents aged 13–15 years. Foshee’s (1996) conceptualisation of psychological ADV has also been used in measures by Zweig et al. (2013). Barter et al. (2009) also draws on Stark’s (2007) conceptualisation of coercive control within adult abusive relationships to measure emotional ADV including harming a young person’s self-esteem through ridiculing them, making negative remarks, surveillance, controlling behaviour, and using threats of violence. The UK cross-Government definition of domestic violence also now includes adolescents from the age of 16 years (Home Office 2012). The Cronbach’s alpha score for the victimisation measure was $\alpha = .96$ and $\alpha = .94$ for perpetration, suggesting high internal consistency.

Fifteen items from the Safe Dates scales (Foshee et al. 1996) were used to

measure past year ~~for~~ physical ADV victimisation and instigation (e.g. scratching, slapping, kicking, biting, choking, punching and more serious behaviours such as assaulting with a weapon). Response options ranged from 'never' to 'ten or more times'. The Cronbach's alpha score for the victimisation measure was $\alpha = .94$ and $\alpha = .96$ for the perpetration measure in this study, suggesting high internal consistency. The Safe dates scales have not been formally validated in a psychometric study of the scales however many studies that have used them report high Cronbach's alphas, and consistency in finding expected associations, suggesting validity (Foshee et al. 2013). For example, the reliability of the Safe Dates scales has been evaluated on an adolescent sample in ADV studies by Swahn et al. (2008a), Swahn et al. (2008b) and Windle and Mrug (2009). It was made clear to adolescent respondents that responses to the CBS and Safe Dates scales referred to offline ADV behaviours as opposed to the TAADV survey that referred to technology-assisted behaviours.

As well as this, demographic questions (e.g. gender, age, school year, ethnicity, and parental marital status) and questions about dating experience were asked. For example, regarding dating relationship experience, adolescents were asked if they had ever had a girlfriend or boyfriend, if they had had a girlfriend or boyfriend in the last 12 months, and if they currently had a girlfriend or boyfriend. The following definition of dating was provided: "Dating" is a term used to describe when two people are in a romantic relationship. Most young people describe this as "going out" and refer to a dating partner as a "girlfriend" or "boyfriend". The relationship may be sexual, but it does not have to be.

## Analytical Strategy

The prevalence, including gender differences of the 12 TAADV behaviours and controlling and physical ADV is reported using descriptive statistics and Pearson's Chi-square tests. Chi-square and Fisher's Exact tests when more than 20% of expected cell counts were below five (Field 2009), were used to examine the overlap between victimisation and instigation experiences of TAADV and physical and controlling ADV, in addition to the overlap between TAADV and physical ADV, and TAADV and controlling ADV among male and female adolescents. The odds ratios for Chi-square tests were calculated using the risk function in SPSS. Cramer's V is the effect size used for crosstabs larger than two-by-two when the risk-based odds ratio cannot be calculated.

# Results

## Prevalence of TAADV and ADV

To address the first hypothesis, the prevalence of adolescents' past year victimisation and instigation of the 12 TAADV behaviours, in addition to controlling and physical ADV were assessed and gender comparisons were examined.

*TAADV* Just under three-quarters of adolescents reported experiencing any TAADV behaviour via any technology at least once in the past year (Table 1). Table 1 provides a summary of adolescents' experience of each type of TAADV victimisation by any technology and for males and females separately. Across the 12 individual types of behaviour measured, 12–56% of adolescents reported receiving some form of TAADV at least once or more (11–54% for males and 12–57% for females). Typically, the most commonly reported technologies used were text messaging, social networking sites and instant messenger. Could this sentence please be added in here or put in brackets at the end of this sentence - "See Stonard (2018) for a detailed analysis of the nature of the different electronic communication technologies used in TAADV"

Reference = Stonard, K. (2018) Technology-assisted adolescent dating violence and abuse: A factor analysis of the nature of electronic communication technology used across 12 types of abusive and controlling behaviour. Journal of Child and Family Studies.

Being contacted by a dating partner to check up on their whereabouts, what they are doing and whom they are with was the most commonly reported TAADV behaviour with over 50% of adolescents reporting having experienced this.[1] The next most prevalent behaviours reported were experiencing insults and putdowns from a partner by technology, being embarrassed or humiliated via technology, having messages checked, having their information or pictures/videos shared via technology without consent, threats, sexting pressure, unwanted sexting, and having contacts deleted. Less prevalent behaviours were having passwords demanded, being afraid to not respond to contact, and prevention from communication technology use.

Pearson Chi-square tests were conducted to compare the 12 TAADV victimisation behaviours by gender and the only significant differences found were for having been threatened ($p < .05$) and experiencing sexting pressure ($p < .01$) from a dating partner (Table 1). The odds of adolescents experiencing threatening behaviour were almost twice as high for females than for males. The odds of adolescents experiencing sexting pressure were more than two-and-a-half times higher for females than for males. Notably, experiencing sexting pressure and unwanted sexting from a partner was more prevalent for females than males, despite only being significant for the former.

In terms of TAADV instigation, half of adolescents reported instigating any TAADV behaviour by some form of technology at least once or more (Table 2). Females were more likely to be identified as TAADV victims and instigators in these prevalence statistics compared to males but this was not statically significant. Table 2 provides a summary of adolescents' instigation of each type of TAADV behaviour by any technology.

Across the 12 individual types of behaviour measured, 5–34% of adolescents (5–31% for males and 3–36% for females) reported instigating some form of TAADV at least once or more. Contacting a partner to check up on their whereabouts was the most commonly reported TAADV behaviour, as it was for victimisation, followed by insults, checking messages or contact histories, sharing a partner's information or images, and being embarrassed/ humiliated. Few adolescents reported sexting-related instigation although this was higher for males compared to females. The prevalence of TAADV instigation was lower than that for victimisation but still substantial. As was found for victimisation, the prevalence of these instigation behaviours appears to vary between behaviour type, with what may be seen as potentially less severe behaviours such as insults and checking up on a partner being more common, while potentially more severe controlling behaviours such as preventing a partner from using technology being less common, although still present.

Pearson Chi-square tests of the 12 TAADV instigation behaviours by gender were significant for one of the 12 behaviours, having demanded a dating partner's passwords (Table 2). The odds of adolescents demanding a partner's passwords were 0.25 higher for males than for females. The first hypothesis that

TAADV will be prevalent in adolescents' dating relationships and there will be a significant difference by gender (e.g. reports of sexual and non-sexual TAADV victimisation will be higher for females and sexual instigation higher for males, while non-sexual TAADV instigation will be higher for females) was partially supported with regard to TAADV victimisation for two of the 12 behaviours.

*ADV* Although ADV was not as prevalent as TAADV, over a third of adolescents reported some form of controlling ADV victimisation and over two-fifths reported instigating controlling ADV in the last 12 months (Table 3). A quarter of adolescents reported physical ADV victimisation while 14% reported physical ADV instigation (Table 3).

Pearson Chi-square tests of controlling and physical ADV by gender were significant for controlling ADV victimisation and instigation; physical ADV was not significant (Table 3). The odds of adolescents being a victim of controlling ADV were over two-and-a-half times higher for females than for males. The odds of adolescents' being an instigator of controlling ADV were 2.37 times higher for females than for males.

The first hypothesis that ADV will be prevalent in adolescents' dating relationships and that there will be a significant difference by gender (e.g. reports of controlling ADV victimisation and physical and controlling ADV instigation will be higher for females, while physical ADV victimisation will be higher for males) was partially supported with regard to controlling ADV victimisation and instigation. Significant gender differences in physical ADV were not found, despite females reporting a higher prevalence of physical ADV instigation.

## Overlap between Victimisation and Instigation of TAADV and ADV

Patterns of adolescents' experiences of TAADV and ADV victimisation and/or instigation in the last 12 months varied depending on the type of violence. Nearly a half of adolescents who experienced TAADV reported being an instigator-victim, just under a quarter reported being a victim only, and very few were instigators only (and were males) (Table 4). This suggests that adolescents' experiences of TAADV in this sample were typically characterised as being

both an instigator and a victim (i.e. instigator-victim). With regard to controlling ADV, nearly one third of adolescents reported being an instigator-victim, just over one-in-ten reported being instigators only and 5% were victims only. For physical ADV, over one-in-ten of adolescents reported being victims only, followed by just over one-in-ten being an instigator-victim and few reported being an instigator only (Table 4).

A Pearson Chi-square test revealed that there was a significant relationship between gender and adolescents' involvement in controlling ADV across the categories of 'victim-only', 'instigator only', and 'instigator-victim' ($p < .01$). Post hoc analysis revealed that significantly fewer males reported being in the 'instigator-victim' controlling ADV category than females ($z = -2.13$, $p = .03$). No significant associations were found between gender and TAADV and physical ADV ($p > .05$) using Fisher's Exact tests (Table 4).

Adolescents' role of involvement in sexual and non-sexual TAADV was next examined (Table 5). A total of 29% of adolescents reported some form of involvement in sexual TAADV, while 72% reported some form of involvement in non-sexual TAADV. Most of those with sexual TAADV experience were victims only, followed by instigator-victims and instigators only. Most of those who were involved in non-sexual TAADV were instigator-victims, followed by victims only and then instigators only. Sexual TAADV was therefore more likely to be characterised by victimisation only experiences while non-sexual TAADV was predominantly characterised by those with an instigator-victim role (Table 5).

A Fisher's Exact test revealed that there was a significant relationship between gender and adolescents' involvement in sexual TAADV across the categories of involvement ($p < .01$; Table 5). Post hoc analysis revealed that significantly more females were in the 'victim only' category than males ($z = 2.08$, $p = .03$). Likewise, males were significantly underrepresented in the 'victim only' category compared to females ($z = -2.45$, $p = .02$).

The second hypothesis that there will be overlap between reported instigation and victimisation of TAADV/ADV was supported for all types of dating violence. For many adolescents, experiences of TAADV and ADV include both victimisation and instigation, however for some, these experiences were as a

victim or instigator only. In addition, when considering sexual and non-sexual TAADV specifically, females were more Insert "significanty" before 'more' to read: "females were significantly more likely" likely to report exclusive victimisation of sexual TAADV as predicted. This was not statistically significant for males in terms of sexual TAADV instigation as was hypothesised.

## Overlap between TAADV and ADV

The final aim of this study was to assess the extent to which TAADV and ADV overlap, and whether there are adolescents who only experience and/or instigate TAADV, or whether the two forms co-occur. The percentages of the overlap of adolescents' experiences of controlling and physical ADV with TAADV are provided in Tables 6 and 8 (males) and Tables 7 and 9 (females). For both male and female adolescents, there was some overlap in experiences of TAADV and controlling or physical ADV. For some adolescents, only TAADV or ADV was experienced. For example, for males, there were adolescents who had not experienced controlling ADV who had experienced TAADV victimisation (30%), instigation (3%), and instigation-victimisation (30%) and those with no experience of physical ADV who had experience of TAADV victimisation (24%), instigation (2%), and instigation-victimisation (38%). Some males with no experience of TAADV did also report controlling ADV instigation (17%) and instigation-victimisation (19%), and physical ADV victimisation (21%). Similarly, females with no experience of controlling ADV had experienced TAADV victimisation (33%) and instigation-victimisation (22%). Females with no experience of physical ADV also had experience of TAADV victimisation (28%) and instigation-victimisation (41%). On the other hand, females with no experience of TAADV had experience of controlling ADV instigation (39%) and instigation-victimisation (5%), and physical ADV instigation (33%) and instigation-victimisation (14%). Fisher's Exact tests were conducted in order to examine whether there was a significant overlap between male and female adolescents' experiences of TAADV with their experiences of: (1) controlling and (2) physical ADV (i.e. none, as a victim, instigator, and instigator-victim).

*Controlling ADV and TAADV* For males (Table 6), Fisher's Exact test revealed that there was a significant relationship between TAADV experience

and controlling ADV ($p = .01$). Post hoc analyses however, revealed non-significant differences between groups, with only those in the TAADV and controlling ADV instigator-victim category approaching significance ($z = 1.96$, $p = .05$). If this was significant, this would suggest that male TAADV instigator-victims were also more likely to be in the controlling ADV instigator-victim category, compared to controlling ADV~~A~~ victims only and instigators only.

For females (Table 7), Fisher's Exact tests revealed that there was a significant relationship between TAADV experience and controlling ADV ($p = .000$). Post hoc analysis revealed that significantly more females who had no experience of TAADV also reported not experiencing controlling ADV ($z = 3.01$, $p = .003$), compared to being controlling ADV victims only, instigators only, and instigator-victims; and controlling ADV instigator-victims were underrepresented within the TAADV non-involved group ($z = -3.13$, $p = .002$). Female TAADV victims only were also significantly more likely to be in the no experience of controlling ADV category ($z = 2.06$, $p = .04$) compared to controlling ADV victims only, instigators only, and instigator-victims. This suggests that adolescents who did not experience TAADV were also not likely to be involved in controlling ADV. Additionally, TAADV victims only were also more likely to be in the non-involved controlling ADV group, suggesting that females experienced exclusive TAADV victimisation.

Post hoc analysis also revealed that significantly more female adolescents who were TAADV instigator-victims were also in the controlling ADV instigator-victim category ($z = 3.36$, $p = .001$) and significantly fewer were in the non-involved controlling ADV category ($z = -3.38$, $p = .001$) compared to the controlling ADV victim only and instigator only categories. This suggests that there is a significant overlap between TAADV and controlling ADV instigation-victimisation for females.

*Physical ADV and TAADV* For males, Fisher's Exact test revealed that there was not a significant relationship between TAADV experience and physical ADV ($p = .229$), suggesting there was no significant overlap between male adolescents' experiences of TAADV and physical ADV (Table 8). Nevertheless, 86% of physical ADV instigator-victims were also TAADV instigator-victims.

For females (Table 9), Fisher's Exact test revealed that there was a significant

relationship between TAADV experience and physical ADV ($p = .000$). Post hoc analysis revealed that significantly fewer females who were not involved in TAADV were in the physical ADV victim only category ($z = -2.02$, $p = .04$) compared to the physical ADV instigator only, instigator-victim, and none-involved group. In addition, post hoc analysis revealed that there were fewer female TAADV victims only in the physical ADV instigator-victim ($z = -2.12$, $p = .03$), physical ADV instigator only and victim only groups than the none-involved group, suggesting females experienced exclusive TAADV victimisation. Finally, post hoc analysis revealed that significantly more female TAADV instigator-victims were in the physical ADV instigator-victim group ($z = 2.06$, $p = .04$), compared to the physical ADV instigator only, and victim only group. Therefore, there was some considerable overlap with TAADV and physical ADV instigation-victimisation for females, as found for controlling ADV.

The third hypothesis regarding whether there is any overlap between adolescents' experiences of TAADV with controlling or physical ADV, was therefore partially supported. For many adolescents, experiences of TAADV and ADV did often overlap (particularly the instigator-victim role). This overlap was significant for controlling ADV and TAADV for males and females, but was only significant for physical ADV and TAADV for females. For some adolescents, these experiences of TAADV and controlling and physical ADV were experienced in isolation (i.e. around two-thirds reported exclusive TAADV involvement). Technology appears to indeed provide new opportunities for victimisation and/or instigation of TAADV that may not have been possible before the development of such communication tools, in addition to TAADV and ADV being experienced as a continuum of dating violence in both the online and offline contexts.

# Discussion

This paper addressed three hypotheses concerned with the prevalence of TAADV and controlling and physical ADV among male and female adolescents, adolescents' role of involvement in TAADV and ADV as a victim and/or instigator, and the extent of overlap between TAADV and ADV. Notably, 12–56% of adolescents reported experiencing some form of TAADV across the 12 behaviours by any technology and 5–34% reported instigating TAADV,

compared to 36%/ 43 missing "%" on 43% and 25%/14% who were victims/instigators of controlling and physical ADV respectively. The TAADV victimisation prevalence findings in this study are consistent with the broad estimates of TAADV victimisation found in the review of TAADV studies in Stonard et al. (2014), i.e. 10–56% for victimisation and 7–54% for instigation. The higher end of these prevalence ranges found in this study are greater than those in other UK studies, for example, Barter et al. (2009): victimisation: 12–42% (females) and 4–19% (males); and Fox et al. (2014): victimisation: 17% and instigation: 12%. These findings confirm that TAADV is prevalent in a substantial number of British adolescents' romantic relationships, potentially more so than offline ADV. This may be explained by the increased opportunity to communicate abusive behaviour via technology instantly and repeatedly (Draucker and Martsolf 2010), adolescents' increased willingness to report indirect abuse via technology, or the potential normalisation of such behaviours in adolescent romantic relationship. We need to know more about the nature and impact of TAADV, especially TAADV behaviours that may be instigated via public and social media. Lucero et al. (2014) found that adolescents viewed some TAADV behaviours as problematic only when they occurred outside of dating relationships. Stonard et al. (2017) also found that checking a partner's phone and messages were also perceived to be common behaviours. It is possible that adolescents may interpret TAADV behaviours as having different meanings and impact on them and their relationships.

Contacting a partner to check their whereabouts, checking a partner's messages, and insults and putdowns were the most common behaviours experienced and instigated by the adolescents in this study. These findings support previous research which has highlighted the prevalence of checking up on a partner or checking a partner's messages (Associated Press and MTV 2009; Barter et al. 2009; Tompson et al. 2013) and insults and hurtful comments or putdowns (Cutbush et al. 2010; Picard 2007). A notable percentage of adolescents (i.e. around 20% for victimisation) also reported experience and use of sexting pressure and sending or receiving unwanted sexting messages. This, in addition to the prevalence of adolescents reporting sharing a partner's information or images raises concerns for the impact of victimisation and instigation of such behaviours, particularly, for example, when such behaviours may place young people at risk of committing sexual offences through the creating, sharing or

distributing of sexting images of young people under the age of 18 (e.g. The Protection of Children Act 1978, Gov UK ~~Gov~~ 1978).

AQ2

It was expected that females would report a higher prevalence of non-sexual TAADV victimisation and instigation and a higher rate of sexual TAADV victimisation than males. This first hypothesis was partially supported; females reported significantly more victimisation of threats and sexting pressure via technology, however males reported more instigation of demanding a partner's passwords. This is consistent with previous research to find a gendered nature to sexting and sexual TAADV (Cooper et al. 2016; Ringrose et al. 2012; Ringrose et al. 2013; Wood et al. 2015; Zweig et al. 2013). Although males were more likely to have had a sext shared in Dick et al.'s (2014) study, which is in contrast to this and previous research. These findings are in contrast to those found in focus groups with adolescents by Stonard et al. (2017) that males were more likely to report being recipients of checking or monitoring behaviours (e.g. demanding passwords) by females, although this was not exclusive. The first hypothesis was supported with regard to controlling ADV, with females being more likely to be identified as victims and instigators, but this was not significant for physical ADV (although the prevalence rate for instigating physical ADV was higher for females). It is not known whether males underreport physical ADV due to the perceived unacceptability of male violence towards females (Simon et al. 2010).

There was some overlap between victimisation and instigation in all three types of violence (TAADV (49%), controlling (31%), and physical (11%) ADV), partially supporting the second hypothesis. These prevalence levels are substantially lower than those for mutual physical (49–79%) and psychological (77–94%) ADV identified by others (Giordano et al. 2010; O'Leary et al. 2008; Richards et al. 2014; Williams et al. 2008). Notably, around half of adolescents were TAADV instigator-victims and around a quarter were each in the victim only and non-involved group. Adolescents' experiences were generally not characterised by instigation only (only two males), which may be a result of socially desirable responding. Instigator-victim roles may reflect the typology of 'Situational Couple Violence' (SCV), 'Violent Control-Violent Resistance' (VCVR), 'Mutual Situational Violence' (MSV) or 'Mutual Violent Control' (MVC) as described by Johnson (2006) and Messinger et al. (2014) with regard

to ADV. Such types of violence and abuse are characterised as being bi-directional and potentially recurring and more frequent events and may reflect a higher need for intervention. Bi-directional violence has been described by young people as ‘fights’ rather than ‘abusive’ (Draucker et al. 2012), signifying a potentially subjective nature of the impact of such behaviours. Messinger et al. (2014) also found that SCV was the most common type of violence instigation among 493 adolescents (aged 14–18). ADV that is defined as being SCV is most likely to be characterised by low-control violent behaviours in relationships where both partners may be violent, but without the control of one partner over the other or a power imbalance between partners. Messinger et al. (2014) went on to develop and define five categories of violence typologies, redefining SCV as a ‘Mutual Situational Violent relationship’ (MSV) whereby both partners use low controlling violence. This therefore appears to reflect the most typical involvement of non-sexual TAADV among adolescents in this current study reported on in this paper, however a different pattern emerged for sexual TAADV and a slightly different pattern for physical ADV. More research is needed to explore how typologies of violence apply to TAADV and the context, motives, level of control and gender inequality in TAADV experiences.

In contrast to the findings in this paper, Zweig et al. (2013) reported that two-thirds of TAADV victims were not also instigators, concluding that there may be less reciprocity of TAADV between partners than other forms of ADV, although most TAADV instigators (72%) also reported being victims. A significant relationship was found between controlling ADV role and gender, with females being over-represented in the instigator-victim category compared to males. This is a unique finding of this paper that highlights that not only is the prevalence of TAADV substantial, but adolescents are likely to have TAADV (and controlling ADV) experience as both an instigator and a victim. Another important finding of this study was the significant association between gender and role of involvement in sexual TAADV, with females more likely to be identified as ‘victims only’ compared to males. This provides further support for existing findings that have found a uni-directional and gendered nature to sexual ADV and TAADV (Barter et al. 2009; Wood et al. 2015; Zweig et al. 2013).

The third and final hypothesis was partially supported as for some adolescents their experiences of TAADV did overlap with experiences of controlling and/or

physical ADV. The overlap between ADV and TAADV raises implications for recognising the extent and intrusiveness of dating violence, especially as TAADV has been perceived as being inescapable (Stonard et al. 2017). Korchmaros et al. (2013) also concluded that TAADV instigation was likely to be an extension of offline abuse in their sample of adolescents (age 14–19); nevertheless, 17% of TAADV instigators did not instigate psychological abuse in person. The findings in this paper indicate that around two-thirds of adolescents who reported experiences of TAADV did not have experience of controlling or physical ADV in the last 12 months, suggesting that technology provided new opportunities for victimisation and/or instigation of TAADV exclusively that may not have been possible before the development of such communication tools. Consequently, this means research evidence regarding the prevalence of ADV may be underestimated in surveys that do not specifically address violence communicated via technology.

Korchmaros et al. (2013) suggest that the use of technology only to instigate psychological abuse may lie in the explanation that some individuals prefer indirect methods of abuse or the possibility that adolescents have limited time together in person. A finding from Stonard et al.'s (2017) study was that young adolescent females felt insecurities in their relationships over a partner's wellbeing or whereabouts, particularly when they did not see each other often outside of school leading to increased communication edit: "increased technology-assisted communication" or monitoring/controlling behaviours. Furthermore, 88% of females who were victims only of physical ADV reported being instigator-victims of TAADV, which may suggest that TAADV is a preferred method (particularly for females) to communicate abuse. It has also been found in previous research that some adolescents establish and maintain relationships exclusively online (Mishna et al. 2009), suggesting a new digital culture within which relationships are maintained and in which abuse and controlling behaviour can be carried out indirectly.

## Implications

The findings of this paper raise several important implications for theory, policy and practice. TAADV may be described as an 'internet-enabled' type of cyber aggression as a result of the behaviours experienced online, traditionally being experienced offline (Kirwan and Power 2013). It is possible that adolescents

who use ADV in the offline context learn to use technology as a new tool to continue their abuse and control of a partner via a diverse range of avenues, even from a single device (i.e. smartphone). Social learning theory states that people learn through experience, observation, and reinforcement (Bandura 1977), therefore if an instigator is able to use technology as another form of abusive or controlling behaviour resulting in the same desired effect, reaction, or if they receive a positive reinforcement (i.e. reassurance by checking up on a partner or checking their messages and contact histories), they may choose to use abusive and controlling behaviour electronically too. Although TAADV behaviours appear to overlap with those in the offline environment (i.e. controlling and physical ADV), these findings highlight that for some adolescents, involvement in TAADV was exclusively technology-assisted. Therefore, TAADV and its potential unique features may need to be accounted for theoretically, considering the changes in the methods (i.e. modus operandi) of TAADV and the increase in victim exposure for violence instigated in cyberspace (Miró Llinares 2001: 5, cited in Agustina 2015: 39).

AQ3

Technology has provided a new tool and environment in which violence and abuse can be experienced or instigated potentially more easily and accessibly as a result of its availability (Bryant et al. 2006). Several criminological theories and theories of cyberspace specifically, can be and have recently been applied to explanations of cyber crime including cyber dating violence, cyberbullying, cyberharassment and cyberstalking (Marcum 2011; Ngo and Paternoster 2011; Ouytsel et al. 2016; Pittaro 2007), and attempt to explain how technology has created new opportunities for abusive and harassment behaviour that can be applied to interpret the TAADV~~A~~ prevalence findings in this paper. These theories include routine activity theory (Cohen and Felson 1979), rational choice theory (Cornish and Clarke 1986), and space transition theory (Jaishankar 2011). In terms of routine activity theory, online risk behaviour, the length of the romantic relationship, engagement in sexting with a romantic partner, and the amount of social networking site use have been linked to controlling TAADV~~A~~ victimisation (Ouytsel et al. 2016). In this context, technology may present opportunities for motivated offenders via constant access to available victims and a lack of a capable guardian when communicating abuse via technology. In addition, technology provides daily

exposure or access to a partner's personal information and in the case of sexting, intimate photos that can be used for abusive purposes. Spending extensive amounts of time online is also reported to place young people at an increased risk for online victimisation (e.g. unwanted exposure to sexual material, sexual solicitation, and unwanted nonsexual harassment), however protective software (i.e. the use of filtering and blocking) has not been found to decrease victimisation for the respondents (Marcum 2011).

In terms of space transition and rational choice theoretical perspectives, the online environment is reported to reduce the ability of the perpetrator to feel empathy for the victim, blur the boundaries between normal and acceptable behaviour, to increase dissociative anonymity, flexible identity, and online disinhibition (i.e. confidence to behave in a different way online to offline), in addition to allowing those with repressed behaviour offline to act out such behaviour online (Jaishankar 2011). This means that there is little deterrence for engaging in such behaviour and that technology may provide unique opportunities for abusive behaviour to take place. These findings have implications for how we explain and manage TAADV and its high prevalence, helping to understand how increased opportunities as a result of unique features of technology (i.e. availability, accessibility, anonymity, sharing information etc.) and technology exposure may lead to TAADV. It may be beneficial to increase the effect of deterrence through better methods of monitoring and reporting online abuse while educating victims about risks and safety and addressing motivating factors for instigators.

The current findings raise questions as to whether TAADV and ADV should be considered as separate entities or rather a continuum of behaviours. On the one hand, as some adolescents only experienced TAADV with no offline ADV experience, TAADV may therefore provide a new opportunity for abuse for those who would not have normally engaged in physical or controlling ADV to then become instigators or victims of TAADV only and may need to be considered separately. On the other hand, it is important to recognise the overlap between the two methods of violence (particularly for the instigator-victim role of involvement) and how technology is intertwined within our lives and relationship development and maintenance (Draucker and Martsolf 2010), including that which involves violence in intimate relationships. Further research should explore this in more detail by longitudinally assessing whether

TAADV~~A~~ leads to ADV and vice versa, in addition to performing methods such as factor analyses of ADV and TAADV behaviour measures to provide further insight into this question.

In addition, the findings have theoretical implications for typologies of TAADV. The high percentage of overlap between adolescents' experiences and use of TAADV (i.e. the instigator-victim role) is interesting and requires further theoretical and empirical attention in order to understand the nature of this instigator-victim role of involvement (i.e. whether the respondent was an instigator or victim first and the level of control used). Gender differences found for this role in terms of controlling ADV for females may also require future unpicking regarding the types of behaviour instigated and experienced, the subsequent impact of such behaviour, and gender differences. A notable finding of this paper that has theoretical implications for our understanding of TAADV is the finding that females were more likely than males to experience exclusive sexual TAADV victimisation. This supports that sexual TAADV victimisation (i.e. sexting pressure) is not gender-neutral, like that of traditional sexual ADV which is characterised as being more prevalent for females than males (Foshee 1996; Barter et al. 2009; Redfield et al. 2018) and supports the feminist and gender inequality theoretical perspectives (Walker 1989; Yllö and Bograd 1990).

These findings highlight the importance of acknowledging TAADV as well as ADV in definitions, policy, and prevention strategies. In addition, definitions and ADV policy need to be inclusive of adolescents under the age of 16 as has been achieved internationally (Council of Europe 2011). It is important to recognise that violence in romantic relationships may be experienced in both offline and online contexts and when one is present, practitioners should look for signs for the other. Furthermore, the unique nature of ADV in the traditional and technology-based contexts (and the diverse range of technologies through which a range of TAADV is experienced and instigated) and their impact should be acknowledged in preventative initiatives. Practitioners and those working with young people should also recognise the complex nature of TAADV and ADV experiences, for example, in terms of the role of involvement (i.e. bi- and uni-directional violence). Although both males and females reported a substantial amount of TAADV and ADV victimisation and instigation, clear gender differences were found with regard to sexual TAADV experiences with

females reporting more experience of this, and exclusively as a victim only, than males. These findings can help inform much needed TAADV prevention strategies via raising awareness and education of healthy relationship communication vs. obsessive, abusive and controlling online behaviours (as well as offline), sexual TAADV and sexting risks, gender inequality, personal boundaries, the sharing of information, and responsible and safe Internet and technology use. Adolescents should be taught skills to enhance positive relationship functioning in both the offline and online environment.

## Limitations

As with any research the findings should be considered within the context of the study's limitations. Data collected with self-report surveys is subject to response bias, potential variations in how participants interpret terms and their meaning, problems of memory recall and omission (Bryman 2004). The findings cannot be generalised to all British adolescents due to the non-random opportunity/purposive sample. As the research is cross-sectional, the timing and onset of ADV and/or TAADV experience is not known. Another limitation was that offline sexual ADV was not measured meaning sexual TAADV cannot be directly compared with sexual ADV. A number of ethical and practical issues influenced the decision to omit measuring offline sexual ADV experiences including the age of the sample, the sensitivity of the issue, potential disclosure of underage sexual behaviours and abuse (particularly with older partners), resistance by some gatekeepers for such questions to be included in the questionnaire, and due to reports of sexual violence tending to be subject to socially desirable responding and underreporting (Fernandez-Gozalez et al. 2013). This should be addressed where possible in future research in order to examine the multiple types of ADV. Finally, the age range covered in this paper covered a large adolescent period, it is possible that there are differences in adolescent experiences of TAADV and ADV depending on the stage of adolescence (e.g. 12–14, 15–16, and 17–18). It is possible that younger adolescents with less relationship experience may experience more TAADV and ADV~~A~~ in their romantic relationships due to immaturity. On the other hand, older adolescents who have more intimate and potentially more serious relationships may be more likely to engage in TAADV~~A~~ and ADV behaviours. Future research should explore the differences in TAADV and ADV prevalence and the overlap between different age groups. Despite this, these limitations,

along with the findings reported in this paper, highlight opportunities for future research.

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# Conclusion

This paper has explored the nature and prevalence of TAADV and ADV victimisation and instigation among a sample of British adolescents using a comprehensive TAADV questionnaire including considerations for gender differences. TAADV was more prevalent than controlling and physical ADV~~A~~. Significant gender differences were found for some but not all types of dating violence. It has been established that adolescent experiences of victimisation and instigation of TAADV and ADV often overlap, although females were more likely to report victimisation only experiences of sexual TAADV. A unique finding of this study was that while experiences of TAADV and ADV often overlap, for a considerable number of adolescents technology appeared to create new opportunities for victimisation and/or instigation of TAADV only. As TAADV may represent a unique form of abuse and was experienced by some adolescents exclusively, this highlights theoretical implications in terms of exploring traditional and contemporary theories of cyberspace in order to develop more comprehensive understandings of TAADV and inform prevention and intervention efforts. The findings also highlight implications for recognising TAADV as well as ADV among adolescents as young as 12–13 years old in social policy in addition to addressing TAADV and ADV through education.

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### Compliance with Ethical Standards

*Disclosure of Potential Conflicts of Interest* None.

*Ethical Approval* All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

*Informed Consent* Informed consent was.

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[1] 6% of male adolescents reported being contacted by a partner to check up on them hourly by phone call and 5% by text message.